Timex Sinclair User Group

NEWSLETTER

Editor-R. Mulder
Designer-J. Turner

Ottawa Chapter
VOLUME II ISSUE II

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Meetings

LOCATION All meetings are held at the NRC bldg. 100 Sussex Dr. Room 11298. Check in with security.
TIME. Meetings are held at 8:00 p.m. on the last Thursday of each month unless otherwise posted.
FORMAT. Each meeting will take the following format
---President's address and intro of new members.
---Software Review (maximum 20 min.)
---Hardware Review (maximum 20 min.)
---Adjournment of formal part of meeting.
---Informal: members dicuss common problems, swap programs etc.....

PRESIDENT'S COMMENTS

On March 14, 1985, the Club Executive met to discuss, inter alia, the new constitution and the 1985 budget of the club, a final copy of which is attached to this newsletter. As you are probably aware, the simple act of collecting dues results in the Club becoming a "taxpayer" in the eyes of Revenue Canada and to avoid paying tax on this money requires that the Club be registered as a non-profit organization; action has been taken by the Executive to accomplish that end.

The Executive acknowledges with thanks the vote of confidence extended to the "official" executive by the membership. On behalf of the membership I also welcome Iris tenHolder as our new Treasurer(Treasuress?)

At the time of this writing, dues have been paid by twenty-two members. In order to facilitate the accomplishment of our stated objectives, I respectfully ask those members who have not paid their dues to do so at the earliest convenience.

At the February meeting, you will recall that I made a plea to the membership to contribute to the activities of the Club, particularly at the monthly meetings. To my amazement, the response was so overwhelming that I found it necessary to put together a chronological roster a copy of which is included with this newletter. I trust those of you who didn't make it to the top of the list are not too offended. I know your enthusiasm will be difficukt to contain. If unforseen circumstances precludes participation on your scheduled date, I am confident you'll have no difficulty finding a replacement among your spirited colleagues. You will note that only paid-up members

are included in the list as these are the only "legal" members according to our constitution.

On another matter, I and several other members have ordered disc systems from AERCO (Acme Electric Robot Company) located in Austin Texas. The order was placed February 13, 1985 and delivery was promised three weeks thereafter. I called AERCO last week and delivery has been delayed another three weeks because the documentation is still not ready. I'll keep you informed on this matter. By way of interest, a double disc drive system costs approxiately 500 dollars US.

In case I haven't mentioned it earlier, I have a SEARS TV/Monitor (RGB) hooked up to both my TS2068 and ZX81 and the display is superb. I had to build an RGB card to interface the monitor to the 2068 (the ciruit is contained in the 2068 technical manual) and an emitter follower to interface the ZX81 to the composite video input of the monitor but neither of these cards were difficult to construct. The TV feature keeps me entertained while I'm waiting for ZX81 tapes to load.

One of every two children born in this world are Chinese which came as quite a shock to a Greek couple.

Two snowbirds were vacationing in Florida during the March break and were dangling their feet in the water in the everglades when along came an aligator and bit the toe off one of the snowbirds. The snowbird jumped up and shouted "An aligator bit off one of my toes". "Which one?", said the other snowbird. The other replied, "How am I supposed to know; if you've seen one aligator you've seen them all".

See you at the next meeting,

JOHN MATHEWSON

N E W S

Well, the Sinclair QL is here. I saw one in action at Gladstone Electronics in Toronto. The graphics are awesome. It comes with 128k, expandable to 640k, and uses a 32-bit CPU.

You have to admire Sinclair for introducing a machine without MSDOS or CPM, without facility for a disk drive, and without a parallel printer port.

Gladstone is selling the QL for $799.00. However, they told me they will be offering a rebate of $189.00, if you trade in your TS2068. $189.00 is their current TS2068 retail price.

Sinclair had been considering releasing the ZX Spectrum into the North American market. In fact, a few were actually lent to dealers for evaluation. As a result of those evaluations, Sinclair has decided not to introduce the Spectrum.

On the modem route, both "The Source", and "Compuserve" have Timex-Sinclair Special Interest Groups (SIGs). On Compuserve, the command is "GO PCS 54"; on The Source, type PARTI R "SINCLAIR INFO NET". Both allow you to upload and download TS2068 programs.

The Zebra Bulletin Board System, after a couple of disasterous crashes, is back and running. It caters solely to Timex-Sinclair computers. They are so big, they now have SIGs for the Sinclair QL, for the A J Stringy Floppy Drive, and for the Smart Term II Modem. Zebra BBS is at telephone 1-718-296-2229.

A number of members have lately been ordering software for the TS2068 from Merry Old England. Some of it is simply superb and easily puts the TS2068 in the same league as any other PC for home use on the market. Beware of "Z-XTRICATOR" for the ZX-81 from Software Farms. A copy I received loads fine but fails to run. Until we determine whether this is a bad tape, or is an incompatibility with North American screen refresh rates, I suggest you hold your money.

A happy Easter to all members.

-Leo Foss.

TASMAN PARALLEL PRINTER INTERFACE

I purchased, almost a year ago, a LEGEND 800 dot-matrix printer with the intention of building a Centronics type interface to my ZX81 computer. The Centronics interface project never materialized and the printer remained unused . Lately, I had the opportunity to try a TASMAN parallel interface to my TS2068. The following words are my comments on the unit.

The interface hardware fits snuggly at the back of the TS2068 and is not likely to cause any "wobbling" problems. The 3 ft long flat ribbon connector to the printer allows enough flexibility in choosing a suitable printer location.

The interface software package includes a number of M/C routines, each 256 bytes long and adapted to a specific printer type currently on the market. There is also a BASIC program thru which any of these routines can be customized for a specific application by redefining the control characters sequences.

Thru this BASIC program, the routine that works with your printer can be, after cusomization, saved on tape and re-loaded at any time (it occupies the last 256 bytes of memory) with your application programs.

The appropriate routine, among other things, reconfigures the LLIST and LPRINT commands to activate your printer thru the TASMAN interface instead of the TS2040 printer. The reconfigured LLIST command worked beautifully with any of the BASIC programs I tried it on, and my son had a great time fooling around with the LPRINT command.

Note that the TASWORD TWO word processor package, also from TASMAN SOFTWARE, is directly compatible with the TASMAN interface in question, and does not need any of the M/C routines mentioned earlier. Just load TASWORD TWO with the TASMAN interface and your printer hooked up and you are in business.

I have been using the TASMAN parallel printer interface for the past two weeks now, and I can only praise the package; furthermore, I steadfastly refuse to return the unit to its rightfull owner.... until my own TASMAN interface arrives by mail!

4TH CORNER

Due to the numerous projects placed on the Executive these past 2 months no specific utility or program for the Forth section has been developed. However, with the kind input of Barry Minuk the following 79 Forth Conversion Program:

```
SCR#9
0  ( 79 Forth Conversion Program
   Barry Minuk 12.7.84)
1  : >IN IN ; : ?DUP -DUP ;
   : CONVERT (NUMBER) ;
2  : D- DMINUS D+ ; : CREATE 0
  VARIABLE -2 ALLOT ;
3  : 2DROP DROP DROP ; : D< D-
  SWAP DROP 0< ;
4  : DNEGATE DMINUS ; : 2/ 1 SRA
; : DEPTH SP@ S0 @ SWAP - 2/ ;
5  : NEGATE MINUS ; : FIND -FIND
DUP IF 2DROP CFA ENDIF ;
6  : SAVE-BUFFERS FLUSH ; : U/MOD
 U/ ; : VARIABLE 0 VARIABLE ;
7  : WORD WORD HERE DUP 1+ C@ 0=
IF 0 OVER C! ENDIF ;
8  : PICK 2 * SP@ + @ ; : ROLL
DUP 1 = IF DROP ELSE DUP 1
9 DO SWAP R>R> ROT >R >R >R LOOP
 1 DO R> R> R> ROT ROT >R >R
10 SWAP LOOP ENDIF;
11
12
13
14
15
```

Generally speaking, the above listing attempts to provide for some compatability between Forth versions. (ie.78 & 79)
As you can see, there are few inputs so far to this column and yet I know for a fact that many people have Forth versions for their TS1000's or 2068's. As well I am sure that many people have experimented with this fantastic language and have discovered ''neat'' items of interest. For that matter it does not matter if you have discovered something new but instead you have run accross a particular problem that is stopping you from going on.
Please, please feel free to write to the Editor and hopefully your problem will be solved. In this way you not only get your answer but provide someone else with information that can assist them. I look forward to your input!
Remember also that this newsletter is distributed to other user groups in the States and elsewhere and that if an answer is not available from us (heaven forbid) I am sure that someone out there may be in a position to help.

R. Mulder (Editor)

T/S USERS GROUP LIBRARY

Librarian: D. Solly

The following is a list of the software program holdings in the T/S Users Group Library. With one exception, the programs are for the T/S 1000.

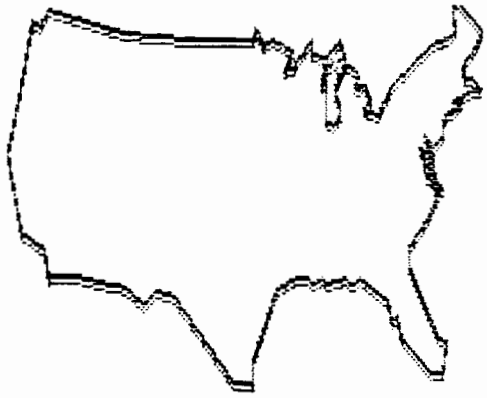
1) Hex Converter
2) Auto Record
3) Nest Egg
4) Magic square (2 versions)
5) Lunar lander
6) Alien Treasure
7) Tarrot
8) Star Trek
9) 1K Games
10) M/C Intro.
11) Bibliographic cat. system
12) Data Transmission
13) Probability & Stats.
14) Micoball
15) Artillary Range
16) Lottery
17) Kitchen sync
18) Flight simulation
19) The starter
20) ZX Forth
21) Biorhythm (2068)

RULES FOR BORROWING:

1) The library materials will be loaned out to members only. 2) There will be only one article loaned per person at one time. 3) The loan period is from one club meeting to the next meeting. 4) In the interest of fair distribution, no automatic renewals will be allowed unless there is a duplicate of the article. 5) The total number of borrowers per loan period will be restricted to 15. Borrowers will be served on a first come first served basis. 6) Anyone who wishes to request a loan prior to the meeting may do so by calling 731-2120. If you should get the answering machine, please speak clearly and be sure to leave your telephone number. Your call will be returned as soon as possible.
The deadline for calling in an order is the Tuesday prior to the monthly meeting.
Finally, it is stressed that we need your input of software programs, publications etc.. Please help us to help you.

2068 Draw (Sates)

The following program demonstrates the 2068 draw function and is intended as a demo only!



```
   1 CLS
   2 LET N=0
   4 LET G=9
   5 REM U.S. MAP
   8 PAPER 1: BORDER 1: INK 7: C
LS
   9 LET A=INT (RND*30)+20
  10 PLOT 46,76-A/2: DRAW -2,10:
 DRAW -10,6: DRAW -6,28: DRAW 10
,46: DRAW 3,-2
  11 LET N=N+1
  18 IF N=3 THEN LET G=10
  20 DRAW 4,6: DRAW 31,-8: DRAW
29,-2: DRAW 26,0: DRAW 1,4: DRAW
 2,-2: DRAW 1,-4
  30 DRAW 5,2: DRAW 6,-4: DRAW -
4,-7: DRAW 4,1: DRAW 1,2: DRAW 7
,8: DRAW 0,-5: DRAW 5,-1: DRAW 5
,6
  40 DRAW 2,-6: DRAW -9,-4: DRAW
 -1,-6: DRAW 2,2: DRAW 0,-14: DR
AW 3,-2: DRAW 3,4: DRAW 0,4: DRA
W -2,4: DRAW 1,6: DRAW 1,-1: DRA
W 2,5
  50 DRAW 4,-2: DRAW 2,-3: DRAW
-2,-3: DRAW 2,-1: DRAW 2,2: DRAW
 3,-6: DRAW -3,-3: DRAW 6,-2: DR
AW 6,10: DRAW 16,14: DRAW 4,2
  60 DRAW 4,1: DRAW 3,3: DRAW -1
,8: DRAW 1,3: DRAW 11,-11: DRAW
-2,-5: DRAW -6,-8: DRAW 1,-4: DR
AW 3,0: DRAW 4,-4
  70 DRAW -4,0: DRAW -8,-4: DRAW
 4,0: DRAW -4,-4: DRAW -2,0: DRA
W -2,-4: DRAW 0,-4: DRAW -4,-4:
DRAW -4,4: DRAW 4,-6: DRAW -2,-4
  80 PLOT 206,116-A/2: DRAW 0,4:
 DRAW -4,2: DRAW 2,-2: DRAW 0,-4
: DRAW 3,0: DRAW 2,-4: DRAW -4,0
: DRAW 5,-2: DRAW 2,-2
  90 DRAW -4,0: DRAW 2,-2: DRAW
-4,-8: DRAW -8,-10: DRAW 0,-7: D
RAW 12,-24: DRAW 4,-2: DRAW -2,-
11: DRAW -5,0: DRAW -12,12: DRAW
 -2,8
 100 DRAW -2,-2: DRAW -2,7: DRAW
 -12,8: DRAW -2,-2: DRAW -2,0: D
RAW -2,2: DRAW -8,-2: DRAW -2,2:
 DRAW -4,-2
 110 DRAW -2,2: DRAW -5,0: DRAW
-8,-4: DRAW -10,-25: DRAW 0,-8:
DRAW -8,0: DRAW -25,30: DRAW -3,
2: DRAW -5,-5
 120 DRAW -5,4: DRAW -5,3: DRAW
-4,0: DRAW -15,3: DRAW -10,0
 130 GO TO G
```

2-WAY HEX/DECIMAL CONVERTER

```
Usage:  IF USR n Then REM 16509
         (decimal input)
        IF USR n Then REM $407D
         (Hex input)
Range:  0-64K
```

ZX ASSEMBLER LISTING

```
FLOATSTR=14D9
FPTOBC=158A
PUSHWORD=1520
POPPRINT=0B55

 RST 20
 RST 20
 CP "$"
 JR Z HEXDM
 CALL FLOATSTR
 CALL FPTOBC
 LA A,"$"
 RST 10
 LD D,4
DEC1   LD E,4
       SUB A
DEC2   RL C RL B RLA
       DEC E
       JR NZ DEC2
 ADD A,+28
 RST 10
 DEC D
 JR NZ DEC1
 RET
HEXDM  LD B,00
       LD C,B
HEXD0  RST 20
       CP 76
       JR Z HPRNT
       SUB +28
       RLA  RLA
       RLA  RLA
       LD D,4
HEXD1  RLA RL C RL B
       DEC D
       JR NZ HEXD1
       JR HEXD0
HPRNT  CALL PUSHWORD
       CALL POPPRINT
       RET
```

IF YOU INPUT THIS VIA DECIMAL MODE USE THE FOLLOWING LISTING OF NUMBERS READING FROM LEFT TO RIGHT

```
231 231 254 13 40 29 205 217
20  205 138 21 62 13 215 22
4 30 4 151 203 17 203 16
23 29 32 248 298 28 215 21
32 239 201 6 0 72 231 254
118 40 18 214 28 23 23 23 23 22
4 23 203 17 203 16 21 32 248
24 233 205 32 21 205 85 11 201
```

CHECKSUM:DECIMAL=6689

INPUT: R. CURZON

INVERSE AND GRAPHICS (ZX-81) WITH ZX ASSEMBLER (Hints/Tips)

ZX Assembler is a well designed piece of software by any standard; it has great power and few limitations for the machine language programmer, and it is easy to use.

Mainly the power comes from these two features:

1) you key in the high-level instructions rather than hunting down the hex codes;
2) you use labels (no line no#'s or addresses), so data storage and control transfer (jumps and calls) are no problem . This is a real plus when building and especially when modifying code. (easier than Basic; line renumbering problems)

But the Character string handling is very powerful too.

For example, if your Z80 program includes strings such as "choose a number between 1 and 20" "wrong answer"

These strings are Automatically translated to the correct Sinclair character codes: no need to look up the codes yourself.

Likewise, you can type CP "." instead os CP 1B if you want to check for the period character.

The problem is Inverse video strings, and also graphic characters. In Edit mode, you can't key these in. Most obvious solution: go to hex codes. But you lose the visability in knowing what the program is doing.

The good news is you Can use inverse and graphics with ZX assembler. You just temporarily leave Edit mode and use the other Assembler features.

E.G. to get string " INVERSE VIDEO" in inverse video:

1) In Edit mode, key in the character string like so-
"*INVERSE VIDEO" normally.

2) Go into SEARCH mode; search for hex code 0B17, from address 0000. (works if "quote,asterisk " doesn't appear elsewhere in your code)

3) Hit "m" key when the string is found (memory edit)

4) Pass the 0B and 17 (quote,asterisk). Then you are looking at the Hex code for INVERSE VIDEO. By adding Hex 80 to every location, you change every character to its inverse. For example:

screen shows	change to
1B	9B
26	A6
39	B9

Only the first hex digit must be changed. Stop when the 0B character comes up again (the closing quote).

5) Quit memory edit and go back into the main assembler edit option. Backup the screen and you will see your inverse video, just as it would appear on the screen (you can delete the asterisks).

Once you are through the above sequence, it takes only a few seconds to invert video, or put in a graphics character. The payoff comes when you Debug or Modify your code, it is much easier to follow.

Only one caution, the graphics character 82 is ILLEGAL, since it is the LABEL identifier for the assembler.

****Unauthored****

SOFTWARE REVIEW

Many of you have no doubt heard me talking about my inability to come to grips with the fundamental machine code training on my own. In fact, I must admit that I had virtually given up with the thought of ever learning machine code. News for me and you!!!!!!!!! A friend of mine in the States, Ken Duda, sent me a packaged present in the mails a couple of weeks ago. It contained a Spectrum program called The Complete Machine Code Tutor.

Essentially, it consists of a very sparse manual (because one is not needed) and a cassette

tape containing the Editor program and 35 lessons.

The Editor can be used by itself for program testing and development. The only problem here is that this package is meant as for training and caters to programs built in a subroutine method, ie. 15 lines per program only.

The lessons, when loaded in, however provide for everything you could possibly ask for.

The main menu for each group of 7 or so lessons is user-friendly and you can step to the section that you wish to concentrate on. When you do so, a narrative portion explains what is meant by the particular instruction, when it should be used, and what happens when you use it.

Next comes the example of the instruction. The example can be ''run'', ''edited'', ''compiled'', or ''stopped. As you step through the instructions a narrative section explains what is happening with each instruction and how it affects each register or memory address as applicable. As well you can actually see the contents of each register change with each step, or in some cases the flags or special registers.

Maybe I am one of those people who must see the actual item in front of them in a graphic way as well as have explained for them each action as it happens and what and why it happens in that method.

This package sure does the trick! I have learned more in a few short hours than I have in the past 2 years. I would strongly recommend it to any one who wishes to learn machine code and wants to use the fastest and best way of programming.

Much much more could be said about this training package but I lack the words (ha!). Just buy it, it's worth it!!

R. Mulder (Editor)

```
  5 REM [redacted]
  6 LET W$="
  7 DIM B$(12,9)
  8 LET B$(1)="JANUARY  "
  9 LET B$(2)="FEBRUARY "
 10 LET B$(3)="MARCH    "
 11 LET B$(4)="APRIL    "
 12 LET B$(5)="MAY      "
 13 LET B$(6)="JUNE     "
 14 LET B$(7)="JULY     "
 15 LET B$(8)="AUGUST   "
 16 LET B$(9)="SEPTEMBER"
 17 LET B$(10)="OCTOBER  "
 18 LET B$(11)="NOVEMBER "
 19 LET B$(12)="DECEMBER "
400 REM [redacted]
401 LET R$="MONTHLY CALENDAR"
402 GO SUB 2000
406 LET R$="YEAR (E.G. 1985)"
407 LET R=9999
408 GO SUB 2120
410 LET Y=Z
411 LET R$="MONTH (1 TO 12)"
412 LET R=12
413 GO SUB 2120
414 LET M=Z
417 LET N=M
420 DIM A(42)
422 LET E=30
424 LET L=0
426 IF M=2 THEN LET E=28
428 IF M=1 OR M=3 OR M=5 OR M=7
 OR M=8 OR M=10 OR M=12 THEN LET
 E=31
430 IF M=2 AND L=1 THEN LET E=2
9
432 IF Y/400=INT (Y/400) THEN L
ET L=1
434 IF Y/4=INT (Y/4) AND Y/100<
>INT (Y/100) THEN LET L=1
436 IF M=1 OR M=2 THEN LET M=M+
12
438 IF M=13 OR M=14 THEN LET Y=
Y-1
440 LET B=Y+3+2*M+INT ((3+M*3)/
5)+INT (Y/400)-INT (Y/100)+INT (
Y/4)
442 LET C=INT (.5+7*(B/7-INT (B
/7)))
444 LET S=C
446 IF C=0 THEN LET S=7
448 LET F=1
450 FOR X=S TO 42
452 LET A(X)=F
454 LET F=F+1
456 NEXT X
460 CLS
462 GO SUB 2400
466 FOR U=0 TO 5
468 FOR W=1+7*U TO 7+7*U
470 LET Z=W-7*U
472 IF A(W)=0 OR A(W)>E THEN PR
INT AT 2*U+5,(4*Z-2);" ";
474 IF A(W)=0 THEN GO TO 482
476 IF A(W)>E THEN GO TO 491
478 PRINT AT 2*U+5,(4*Z-2);A(W)
;
480 IF (4*Z-2)=26 THEN GO TO 48
8
482 NEXT W
484 NEXT U
486 GO TO 491
488 PRINT
489 PRINT
490 GO TO 482
491 IF M=13 OR M=14 THEN LET M=
M-12
```

```
 493 PRINT AT 21,0;" IS THE PRIN
TER READY (Y OR N)? "
 494 GO TO (494 AND INKEY$="")+(
498 AND INKEY$="N")+(496 AND INK
EY$="Y")
 495 IF R$="N" THEN STOP
 496 PRINT AT 21,0;W$
 497 COPY
 498 STOP
2000 CLS
2010 PRINT "
                  "
2020 PRINT "
                  "
2030 PRINT "
                  "
2040 PRINT AT 1,15-.5*LEN R$;R$
2050 RETURN
2120 PRINT AT 10,0;W$
2122 LET R$="ENTER "+R$
2124 PRINT AT 10,15-.5*LEN R$;R$
2126 INPUT Z
2128 IF Z<=A THEN RETURN
2129 PRINT AT 10,0;W$
2130 PRINT AT 10,7;"INCORRECT AN
SWER"
2132 PAUSE 150
2134 PRINT AT 10,0;W$
2136 GO TO 2124
2400 LET N$="
             "
2402 LET P$="
             "
2404 PRINT AT 0,1;"
                    "
2408 PRINT AT 1,1;"
                    "
2410 PRINT AT 2,1;N$
2412 PRINT AT 3,1;" SUN MON TUE 
WED THU FRI SAT "
2414 FOR X=1 TO 6
2416 PRINT AT 2+2*X,1;N$;AT 3+2*
X,1;P$
2418 NEXT X
2420 PRINT AT 16,1;"
                      "
2422 LET R$=B$(N)+" "+STR$ Y
2424 GO SUB 2040
2426 RETURN
```

```
   1 BORDER 0
   2 CLEAR 65023
   3 LET c=43
   4 LET r=c*8
   5 LET n=65367-r
   6 LET f=35-32
   7 LET d=f*8
   8 LET h=n+1-d-256
   9 LET e=h-256*INT (h/256)
  10 PAPER 0: CLS : LET t=251: P
RINT AT 1,12; INK 6; INVERSE 1;"
SAUCER";#0;"     WRITTEN BY STUAR
T BOX."
  11 INK 6: PRINT AT 3,1;"You mo
ve your flying saucer      around
 using these keys:-

     Q=Left
     W=Right
     E=Down
     R=Up
     T=Fire"
  12 PRINT AT 11,12;"P=Pause";AT
 12,0;"(Press another key to con
tinue)";AT 13,12;"M=Quit"
  13 PRINT AT 17,1;"You can pres
s more than one key at one time
which means you can   move diago
nally."
  14 PRINT AT 21,10;"Please wait
 "
  15 LET t=INT (h/256)
  20 FOR i=n+1 TO n+r: READ a: P
OKE i,a: NEXT i
  35 DATA 0,0,0,0,0,0,0,0
  36 DATA 255,255,255,129,129,25
5,255,255
  37 DATA 0,0,0,0,0,0,0,3
  38 DATA 0,0,0,0,7,56,192,0
  39 DATA 0,0,0,0,224,28,3,0
  40 DATA 0,0,0,0,0,0,0,192
  41 DATA 4,8,16,16,32,32,64,64
  42 DATA 32,33,255,255,153,153,
255,255
  43 DATA 0,0,0,224,228,252,63,6
3
  44 DATA 32,16,8,8,4,4,2,98
  45 DATA 64,79,143,153,153,159,
159,159
  46 DATA 255,255,153,153,255,22
7,227,227
  47 DATA 255,231,231,255,153,15
3,255,255
  48 DATA 0,60,66,66,98,98,98,60
  49 DATA 0,8,8,8,12,12,12,12
  50 DATA 0,124,2,2,60,96,96,62
  51 DATA 0,124,2,2,60,6,6,126
  52 DATA 0,64,96,100,100,126,4,
4
  53 DATA 0,62,64,64,60,6,6,126
  54 DATA 0,62,64,64,124,70,70,1
26
  55 DATA 0,120,8,8,12,12,12,12
  56 DATA 0,60,66,66,60,70,70,60
  57 DATA 0,60,66,66,60,6,6,126
  58 DATA 98,225,225,49,49,241,2
41,241
  59 DATA 0,0,0,0,1,2,4,8
  60 DATA 0,0,0,0,128,64,32,16
  61 DATA 8,11,11,11,8,8,8,11
  62 DATA 16,208,208,208,16,16,1
6,16
  63 DATA 11,24,40,72,143,137,14
5,251
  64 DATA 16,216,212,18,241,145,
137,223
  65 DATA 0,0,0,0,0,1,1,15
```

```
  66 DATA 0,0,0,126,129,56,56,16
  67 DATA 0,0,0,0,0,128,128,240
  68 DATA 63,109,118,63,15,0,0,0
  69 DATA 255,182,219,255,255,0,
0,0
  70 DATA 252,222,110,252,240,0,
0,0
  71 DATA 0,36,24,60,60,24,0,0
  72 DATA 255,255,126,126,60,24,
24,0
  73 DATA 24,24,24,24,24,24,24,2
4
  74 DATA 34,62,28,8,127,93,20,5
4
  75 DATA 192,240,248,255,255,24
8,240,192
  76 DATA 3,15,31,255,255,31,15,
3
  77 DATA 15,31,48,96,199,135,0,
0
 210 PRINT #0;"  Press any key t
o continue"
 220 PAUSE 0
 230 CLS
 235 PRINT AT 3,11; INVERSE 1;"T
he game"; INVERSE 0;AT 5,1;"You
have to bomb the domes       befo
re the time runs out. If     the
time does run out the        miss
ile launches at Earth!!!!!"
 240 PRINT AT 1,12; INVERSE 1;"S
AUCER"; INVERSE 0;AT 10,1;"To ma
ke it even harder there      are a
lso gun turrets that fire    at yo
u, so you have to avoid      being
 shot."
 250 PRINT AT 16,1;"Your score g
oes up ten when you hit a dome."
 260 PRINT #0;"  Press any key t
o continue"
 300 PAUSE 0: CLS
 301 PRINT AT 1,12; INVERSE 1;"W
arning";AT 3,1; INVERSE 0;"Do no
t break into this program  using
 the break keys. Instead   press
 0."
 302 PRINT #0;"    Press any key
 to play."
 303 PAUSE 0
 304 LET s=0
 305 CLS : POKE 23606,232
 310 POKE 23607,252
 320 BEEP .01,0: FOR z=0 TO 8: P
RINT AT z,0;"$$$$$$$$$$$$$$$$K";A
T z,25;"L$$$$$$": NEXT z: POKE 2
3606,0: POKE 23607,60: PRINT AT
3,2;"SCORE="
 321 PRINT AT 5,2;"TIME=": POKE
23606,232: POKE 23607,252
 325 PRINT AT 21,0;"$$$$$$$$$$$$
$$$$$$$$$$$$$$$$$$$$": FOR z=0 T
O 20: PRINT AT z,31;"$": NEXT z
 326 PRINT AT 17,17;"K";AT 17,19
; INK 4;"MMMMMMMMMM"
 327 INK 6: PRINT AT 9,3;"H##H##
H##H"
 328 PRINT AT 15,30;"L";AT 17,15
;"L"
 329 PRINT AT 10,1;"K";AT 10,30;
"L"
 330 PRINT AT 18,2; INK 4;"%&'("
;AT 18,7;"%&'(";AT 19,2;")";AT 1
9,5;",";AT 19,7;")";AT 19,10;","
;AT 20,2;"-";AT 20,5;":";AT 20,7
;"-";AT 20,10;":"
 340 PRINT AT 19,3; INK 6;"*"; I
NK 5;"+";AT 20,3; INK 7;"."; INK
6;"."
 350 PRINT AT 19,8; INK 5;"*"; I
NK 7;"/";AT 20,8; INK 3;"/"; INK
6;"."
 360 PRINT AT 18,22; INK 5;";<";
AT 19,22;"=>";AT 20,22;"?@"
 370 LET p=0: LET t=120: LET w=0
: LET x=0: LET y=17
 400 IF IN 64510=23 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
x=x-1
 410 IF IN 64510=27 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
x=x+1
 420 IF IN 64510=29 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y+1
 430 IF IN 64510=30 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y-1
 440 IF IN 64510=26 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y-1: LET x=x+1
 450 IF IN 64510=22 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y-1: LET x=x-1
 460 IF IN 64510=21 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y+1: LET x=x-1
 470 IF IN 64510=25 THEN PRINT A
T x,y;"###";AT x+1,y;"###": LET
y=y+1: LET x=x+1
 471 IF INKEY$="p" OR INKEY$="P"
 THEN BORDER 4: PAUSE 0: PAUSE 0
: BORDER 0
 472 IF INKEY$="m" OR INKEY$="M"
 THEN GO TO 8000
 473 IF INKEY$="0" THEN POKE 236
06,0: POKE 23607,60: STOP
 475 IF IN 64510=15 THEN GO TO 5
10
 476 IF w<>0 AND x<0 THEN LET x=
0
 477 IF y<1 THEN LET y=1
 478 IF y>28 THEN LET y=28
 480 PRINT AT x,y;"ABC";AT x+1,y
;"DEF"
 481 PRINT AT 3,8;s;AT 5,8;t;"#"
 482 IF t=0 THEN GO TO 800
 483 LET t=t-1
 485 IF p=8 THEN GO TO 305
 490 GO TO 650
 500 GO TO 400
 510 FOR z=x+3 TO 20
 520 IF SCREEN$ (z,y+1)<>"#" THE
N GO TO 550
 525 PRINT AT z-1,y+1;"#"
 530 PRINT AT z,y+1; INK 5;"G"
 540 NEXT z: GO TO 600
 550 IF SCREEN$ (z,y+1)="$" THEN
 GO TO 600
 555 IF SCREEN$ (z,y+1)="M" THEN
 GO TO 600
 560 IF SCREEN$ (z,y+1)="K" THEN
 GO TO 600
 565 IF SCREEN$ (z,y+1)="L" THEN
 GO TO 600
 570 PRINT AT z-1,y+1;"#": NEXT
z: LET s=s+10: LET p=p+1
 600 PRINT AT z-1,y+1;"#": GO TO
480
 650 IF w=9 THEN LET w=0
 655 IF x<=8 THEN LET w=w+3
 660 IF x=9 THEN LET w=0
 661 IF w<>0 AND y<=15 THEN GO T
O 8000
 662 IF w<>0 AND y>=23 THEN GO T
O 8000
 670 IF w>0 THEN PRINT AT w-1,16
; INK 3;"MMMMMMMMMM": BEEP .15,3:
 GO SUB 700
 675 IF w=0 THEN GO SUB 750
 680 GO TO 400
 700 IF x=w-1 OR x+1=w-1 THEN GO
 TO 8000
```

```
 710 PRINT AT w-1,16; INK 0;"###
######"
 720 RETURN
 750 LET l=INT (RND*16+1)
 751 IF x=10 OR x=9 THEN GO TO 9
00
 752 IF x=16 THEN GO TO 950
 753 IF x=14 OR x=15 THEN GO SUB
 930
 755 IF l>=5 THEN RETURN
 756 LET v=l+l+l
 760 FOR q=11 TO 16: PRINT AT q,
v; INK 4; INK 4;"I": NEXT q: BEE
P .05,9
 765 IF v=y OR v=y+1 OR v=y+2 TH
EN GO TO 8000
 770 FOR q=11 TO 16: PRINT AT q,
v; INK 0;"#": NEXT q
 780 RETURN
 800 PRINT AT 17,18;"###########
#"
 810 FOR z=0 TO 10: BEEP .1,9: N
EXT z: FOR z=0 TO 18: PRINT AT 1
7-z,22; INK 5;";<";AT 18-z,22;"=
>";AT 19-z,22;"?@";AT 20-z,22;"#
#": BEEP .05,5: BEEP .05,8: BEEP
 .05,3: NEXT z
 820 GO TO 8000
 900 PRINT AT 10,2; INK 5;"MMMMM
MMMMMMMMM";AT 10,25;"MMMMM": IF
y<=15 THEN GO TO 8000
 910 IF y>=23 THEN GO TO 8000
 920 BEEP .01,0: PRINT AT 10,2;"
##############";AT 10,25;"#####"
: GO TO 400
 930 PRINT AT 15,15; INK 5;"MMMM
MMMMMMMMMMM"
 935 BEEP .01,0: IF y>=13 THEN G
O TO 8000
 940 PRINT AT 15,15;"###########
####": RETURN
 950 PRINT AT 17,1; INK 5;"MMMMM
MMMMMMMMM": BEEP .01,0
8000 BEEP .1,1: BEEP .1,2: BEEP
.1,3: BEEP .1,2: BEEP .1,1: PRIN
T AT x,y; INK 6; FLASH 1;"ABC";A
T x+1,y;"DEF"
8020 POKE 23606,0
8030 POKE 23607,60
8040 BORDER 1: PRINT #0;"
   GAME   OVER            "
8050 BORDER 0: FOR c=0 TO 75: NE
XT c: GO TO 302
TYPED IN, DEBUGED FROM A BRITISH
 MAG-YOUR SPECTRUM.**R. MULDER**
```

LIST OF PRESENTERS AT THE MONTHLY MEETING

DATE	NAME
Mar 28/85	Mike Dove
Apr 25/85	Alan Moore
May 30/85	Ray MacKay
Jun 27/85	Leo Foss
Jul 25/85	Robert Hewers
Aug 29/85	K.D. Schiemann
Sep 26/85	Iris tenHolder
Oct 31/85	M. Konick
Nov 28/85	Mervin Lemke
Dec 26/85	D Raymond-Jones
Jan 30/86	Henry McGee
Feb 27/86	Joe Bouzek
Mar 27/86	O. Kenny
Apr 24/86	D. Solly
May 29/86	J. Lerman
Jun 26/86	G. Goodwin
Jul 30/86	R. Mulder

Hardware Projects

You will find attached to this issue, one in a series of hardware projects for the serious ZX81/TS1000 user. These are gathered from mags and other reference documents as available. This particular item is submitted by Roger Glover. This project is for sound via the TV Speaker and a video reversing switch. Next issue will be the sound generators.

You will also find attached some very interesting kits or fully assembled versions of hardware projects for the 2068 being offered by J. Oliger Co. in the States. Through past reviews on his products for the TS1000 series this outfit runs a top notch outfit with superb guarenteed products. His new 2068 line is said to be a block buster. For the prices you cannot lose!

11601 Whidbey Dr.
Cumberland IN 46229

To: John Oliger Co. customers
From: John Oliger
Subject: Available products for the TS2068 computer and future products for this computer.....Updated 2/24/85

Dear Customer,

I would like to announce the availability of the 2068 eprom programmer. It IS now available, and capable of programming 2764 and 27128 type eproms. The pc board, I believe, is one of my best...it contains absolutely NO wire jumpers, feedthrough wires, or cut pinned sockets, as my TS1000 programmers are riddled with. It is now available immediately from stock, and its purchase includes a booklet written for the project. It is designed to plug into your 2068 4-slot Expansion board, from John Oliger Co. Its price is: Bare Board=$12.95..... Board w/parts=$25.95.....Assembled & tested=$33.95.....I also have a FEW of these boards available with Gold plated edge traces at the following prices, available only while supply lasts: Bare Board=$18.95.....Board w/parts=$31.95.....Assembled & tested=$39.95. Please be advised that you will need either the Vpp power supply (rec., same one used for TS1000 pgmrs, if you already have one) @ $4.49 bare board or $9.95 for board w/ board mounting parts or your own power supply capable of the voltage adjustment range from 4VDC to 22VDC used along with a Voltmeter.

I would also like to announce the availability of my newest 2068 product, the OLIGER 2068 PARALLEL PRINTER PORT. This Centronics type parallel printer port is the lowest priced full size printer I/F available for the TS2068 anywhere, but is lacking in NO details. If you have the Oliger 2068 Expansion board, you can interface your 2068 to ANY full size printer that uses a Centronics type interface for a only $47.90 in its assembled & tested w/cable form. (add $3.00 for gold plated edge traces) Even MORE of your hard earned money can be saved by purchasing the port in one of its many kit forms. See the recently revised Oliger 2068 Product list for complete prices of kits and more details. The pc on this project DOES have plated through holes and is easy to assemble.

I plan on many more products for the 2068, after the pport, the first will be a joystick port board for use with Spectrum software and a 2068 w/Romswitch or emulator that also has an Oliger expansion board. This port looks to the software exactly like the Kempston joystick I/F, but THIS port IS fully decoded, so there can be no conflicts with other third party hardware on your system. The port will be reasonably priced and avail. around the first of March. There will be more after this one, but I am not yet going to commit myself to just what.

Another project for the future is a disc drive controller for the 2068, the hardware of which will be designed by myself and the software end to be written by none other than Ray Kingsley of SINWARE! This project will take some time to develop, both hardware & software, so don't look for it tomorrow! It is hoped that this controller can be made to respond like the Sinclair Interface One with Microdrives, and use all the Basic supported keywords. Ray is also going to try and implement CPM for the 2068 with this controller.

Also, it may be of interest to some of you that Syncware News has been and will be publishing in the future, selected projects offered by myself as construction articles in this fine journal. You can subscribe to Syncware News by sending $16.95 ($19.95 Canada) for 1 year (6 issues) to Syncware News P.O. Box 64 Jefferson, NH 03583.

Thank You,

John L. Oliger

The John Oliger Co.
11601 Whidbey Dr.
Cumberland, IN 46229

PRODUCT LIST FOR THE TS2068

WE PAY POSTAGE (First Class) on all orders to continental USA or Canada. Other foriegn countries add 10% for post/packing. Indiana residents add 5% sales tax. Prepaid orders only, no credit cards. Prices subject to change without notice. NOTE: All of the boards below, as well as all future John Oliger Co boards, are designed with edge trace "fingers" to fit the 2068 Expansion Board below. The ONLY exception to this is the 2068 User Cartridge, which plugs into the cartridge slot on your computer and the Vpp Supply which is a free standing board. All my kits include a 10 day money back satisfaction guarantee, if returned UNSOLDERED and in same condition recieved. Assembled units are guaranteed to work as promised or will be repaired free for 30 days from shipment date, if faulty in material or workmanship.

2068 USER CARTRIDGE BOARD Bare board:$11.95 Board w/parts (ex eprom):$15.95
3pcs board w/parts:$45.95 Assembled & tested:$20.95ea or 3 for $59.95 post pd (no eproms)
Also available w/gold plated edge traces. Add $3.00 to any of the above prices for these gems.
ATTN: Software Producers & Users Groups: Write for a quote on quantities of 10pcs. or more.
This board is designed to plug into the cartridge port of the 2068 computer. The board can hold 2-2764 or 2-27128 eproms in any combination. It allows the 2068 computer owner, when used with the 2068 or TS1000 programmers, to store his own Basic programs in cartridge form for fast and easy access. The board's purchase includes assembly instructions, schematic, and instructions for its use with Basic programs. Although this board CAN be used with MC programs or to make such things as Spectrum Emulators, the documentation included with the board does not cover these uses because of thier complexity. This is left to the user to figure out, hopefully with the help of the TS2068 Technical Manual. This board features PLATED THROUGH HOLES!
NOTE: Ray Kingsley's "Sinware" now has a new version of HOT Z (HOT Z AROS) written for use on this board. This greatly improved version of HOT Z runs as a cartridge, and contains additional software enabling it to read & write to different banks of memory "on the fly". I have a copy of this new version, and am very impressed with it. I highly recommend it to anyone at all interested in mc. Prices for this new & greatly improved version of Hot Z are: Tape for burning your own eproms:$24.95 / 2-2764s preprogrammed and tested, ready to mount in your User Cart Board:$39.95 / Complete Oliger User Cart Board, assembled & tested w/programmed eproms-ready to plug into your TS2068 computer:$59.95. Please order these from: Sinware PO Box 8032 Santa Fe, NM 87504. Please add $2.00 post/packing to each order. If only asking for more info, let's treat Ray right and enclose a legal sized SASE.

2068 EXPANSION BOARD Bare pc board:$14.95 Board w/parts:$43.95
This compact (3 3/4" * 4 3/8") expansion board is designed to plug into the rear expansion connector of your 2068 computer. All of the 2068 boards from John Oliger Co., except the 2068 User Cart board are designed to plug into this expansion board, (the boards have male edge traces, and plug into this board similar to the way new boards are plugged into the Apple computer) so this one is a must if you plan on adding more circuits to your 2068 with John Oliger Co. products. The board includes one "spare" 20 pin ic socket for a user circuit, a rear edge connector feedthrough for attaching the 2040 printer, modem, etc., and the nec. circuitry for an ultra stable RGB monitor interface. (NOTE: The use of the RGB circuitry requires opening your 2068, cutting one trace, and installing one jumper.) The board's purchase includes assembly instructions and a schematic of the RGB interface. The parts kit for this one includes five precut & slotted edge connectors, 2 ic sockets, 1 74HC00 IC, 1 47K resistor, and the nec. feedthrough wire for the board's construction. This board does NOT have plated through holes.

2068 EPROM PROGRAMMER Bare board:$12.95 Board w/pts (no eproms):$25.95
2068 Pgmr asmbld & tstd:$33.95 Bare bd w/gold edge trcs:$18.95 Board (gold) w/parts:$31.95
Board w/gold plated edge traces assembled & tested:$39.95
NOTE: Gold plated board quantity is limited. Standard board will be sent if quant. exhausted.
This very well layed out board adds the capability of programming 2764 & 27128 eproms to your 2068 system. This one is a must for serious use of the 2068 User Cart board. This board comes with complete documentation on its assemoly, use, theory of operation, tips, and details on replacing the Home rom of the 2068 w/a 27128 eprom. This programmer requires the Vpp Power Supply (below, recommended) or a 4-22VDC regulated adjustable power supply w/voltmeter. This board features PLATED THROUGH HOLES!

Vpp POWER SUPPLY Bare board:$4.49 Board w/bd mounting pts:$9.95
This small single sided board provides 4.4, 21, and 25VDC for use with any programmer offered by The John Oliger Co. This circuit is designed to put as little stress on the eprom as possible during programming and is recommended for use with these programmers. Board is supplied with schematic, assemoly instructions, and use instructions. Parts kit does NOT include transformer or power cords/alligator clips.

2068 PARALLEL PRINTER PORT Bare board w/cassette:$16.95 Kit of board w/parts:$24.95
Assembled & tested:$30.95 Bare board w/cass (gold):$19.95 Gold board w/parts:$27.95
Assd & tested (gold):$33.95 Printer cable for this port:$16.95 (standard Apple II type-3ft).
This very small but very capable Centronics type printer port for your 2068 will drive most any printer that has a Centronics type parallel interface. The port uses the same port and BUSY bit assignment used by the Aerco 2068 printer I/F, and thus is compatable with the vast amount of 2068 software that supports this interface. This port is fully decoded and contains a "PRINTER READY" LED to show your printer's current status. Software on cassette included with this port allows use of the standard LPRINT and LLIST commands and use of AT, TAB, and "," the full width your printer is capable of. Also included are hi-res screen dumps (via RAND USR call) for the Okidata dot addressable graphic printers and Olivetti PR230. An ASCII screen dump of ASCII characters is included for use with ANY printer. Unlike most other 2068 printer driver software, THIS software mainly resides in the 2040 printer buffer, using absolutely none of the ram normally used by Basic and well out of the way for opening DFILE_2 on the 2068. The printed circuit board is plated through, easy to assemble, and also avail. w/gold plated edge traces. Annoted assembly listings of the machine code software are included in this port's documentation for ease of customer custom modification and an aid in learning how routines such as these operate on your computer. Another optional version of this software will be available later that will support the 2068 used as a Spectrum.

COMING SOON FOR THE 2068

2068 JOYSTICK PORT 1FH...Emulates the Kempston Spectrum joystick I/F for use with Spectrum emulators and Spectrum roms. Board will be small, easy to build, and economical.

MORE!!!

TSUG OTTAWA/HULL
CURRENT MEMBERSHIP LIST

Note: membership for the 1985 year is $20. (Jan-Dec)

NAME & ADDRESS:	TEL:HOME	TEL:BUS	MEMBERSHIP DOW
NEIL JONES BOX 65 RR1 MANOTICK, ONT K0A 2N0	692-4929	820-7235	J0N114444000000
MICHEAL DOUE 2161 EAST ACRES RD. GLOUCESTER, ONT. K1J 8V5	745-1779	990-0025	D0U513234C100100
GREG GOODWIN 59 ARGYLE AVE. OTTAWA, ONT. K2P 1B3	238-1999		G0031424411000000
JOSEPH LERMAN 59 NAISMITH CRES. KANATA, ONT. K2L 2K7	592-4620	992-9409	LER114141000000
DAVID SOLLY 1545 ALTA VISTA DR. APT.1402 OTTAWA, ONT. K1G 3P0	731-2120	996-7510	SOL113344000100
O.A. KENNY 1609-440 GLOUCESTER ST. OTTAWA, ONT. K1R 7T8	232-8469		KEN134444000000
JOSEPH J. BOUZEK 626 WAVELL AVE. OTTAWA, ONT. K2A 3W2	722-1718		B0U124444000000
JOHN DUNNING 2662-B MONCTON RD. OTTAWA, ONT. K2B 7W1	829-2626		DUN131140000100
HENRY MCGEE 8 GILLESPIE CRES. OTTAWA, ONT. K1V 9X2	521-8640	746-5920	MCG323333000010
JOHN MATHEWSON 1352 APPLEFORD ST. GLOUCESTER, ONT. K1J 6T4	746-7869		MAT313244111011
D.G. RAYMOND-JONES 27 LAIRD ST. PEPEAU, ONT. K2G 2S9	224-4547	725-2226	RJ032444410000000
ROGER GLOVER BOX 722 OSGOODE K0A 2W0	826-2819	596-3186	GLO113232111110000
MERVIN LEMKE 10 ROBERTLEE DR. CARP ONT. K0A 1W0	839-5577		LEM113334110000000
M. KONICK 302-1021 AMBLESIDE DR. OTTAWA, ONT. K2B 8C8	820-1523	993-9217	K0N114444000000000
IRIS T. MULDER 34 BRADFORD ST. OTTAWA, ONT. K	828-6662	996-3953	M0L124444000100000
K.D. SCHIEMANN 18 COLUMBUS OTTAWA, ONT. K1K 1R3	749-6277		SCH133434000000000
ROBERT HEWERS 2435 THORSON AVE. OTTAWA, ONT. K2C 1M7	828-8802	994-4211	HEW324444000000000
ROELOF MULDER 648 JOANISSE ST., GATINEAU,QUE. J8T 1M1	568-4529		MUL313344111101110
LEO FOSS APT 2402 1171 AMBLESIDE OTTAWA, ONT. K2B 8E1	828-0010	994-3600	F0S112224110010000
RAY MACKAY 174 PEPEAU ST. OTTAWA,ONT. K2P 0B6	563-0138	994-1120	MAC313344110000000
ALAN MOORE 2030 CRAIG HENRY PEPEAU, ONT. K2G 4B6	828-4107		M00214344010000000
VICTOR SNIDELER ? ?	?	?	

CHARTER CONSTITUTION

TIMEX/SINCLAIR USERS GROUP

OTTAWA/HULL CHAPTER

MARCH, 1985

CHAPTER CONSTITUTION

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ARTICLE V

DUTIES OF OFFICER:

a) PRESIDENT - shall preside over Executive Committee meetings, monthly meetings and provide for arbitration of disputes.

b) ADMINISTRATIVE OFFICER - shall provide the administrative services necessary for the on-going operation of the Club, such as the provision of a monthly meeting room, preparation of annual Club budget and report and, joint disbursement of Club funds for approved purchases in conjunction with the Treasurer.

c) TREASURER - shall administer the membership roles, dues, bank account and jointly provide for disbursement authorization with the Administrative Officer.

d) DIRECTOR OF HARDWARE - shall provide the membership at large with appropriate hardware training, reviews and demonstrations and recommends Club hardware purchases.

e) DIRECTOR OF SOFTWARE - shall provide the membership at large with appropriate software training, reviews and demonstrations and recommends Club software purchases. In the event of the unavailability of Treasurer or Administrative Officer, the Director of Software has signing authority for cheques.

ARTICLE IX

AMENDMENT:

Amendments to this Constitution shall only be made by the Executive Committee subject to a majority vote of the active members.

ARTICLE X

FINANCES:

Payments of Club expenses shall be made only for those items benefiting the Club and consistent with the purposes and policies of the Timex/Sinclair Users Group Ottawa/Hull Chapter. Approved membership dues shall be collected from each member at the start of each calendar year.

The Treasurer shall maintain sufficient auditable records of all financial transactions.

RECORDS:

The retiring Officers shall transfer to the incoming Officers, complete records of their respective offices, if applicable.

LIST OF CURRENT EXECTIVE

NAME	ADDRESS	POSITION
J. Mathewson	1852 Appleford Street Gloucester, Ontario	President
R. Mulder	648 Joanisse Street Gatineau, Quebec	Administrative Officer
R. Glover		Software Director
V. Schidler		Hardware Director
		Treasurer